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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/665,779

09/19/2003

Daniel J. Scales

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36378

7590

06/05/2008

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EXAMINER

CHANKONG, DOHM

ART UNIT

PAPER NUMBER

2152

MAIL DATE

DELIVERY MODE

06/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/665,779	Applicant(s) SCALES ET AL.	
	Examiner DOHM CHANKONG	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 32-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 32-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to Applicant's amendment, filed on 2.25.2008. Claims 1-7 are amended. Claims 8-31 are cancelled. Claims 32-48 are added. Thus, by way of Applicant's amendment, claims 1-7 and 32-48 are presented for further examination.

2. This is a final rejection.

Response to Arguments

3. Applicant's arguments with respect to claims 1-7 and 32-48 have been considered but are moot in view of the new ground(s) of rejection necessitated by Applicant's amendment.

Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claims 37-48 are rejected for reciting a "computer program" and a "computer-readable medium" but Applicant's specification fails to provide any description for these terms.

Claim Objections

5. Claims 38-43 and 45-48 are objected to under 37 CFR 1.75(c), as being improper dependent claims. Any claim which is in dependent form but which is so worded that it does not include very limitation of the claim on which it depends will required to be canceled as

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not being a proper dependent claim. MPEP §608(n)(II). The test as to whether a claim is a proper dependent claim is that it shall include every limitation of the claim from which it depends (35 U.S.C. §112, fourth paragraph). MPEP §608.01(n)(III).

Here, independent claims 37 and 44 claim computer program embodied in a computer-readable medium where the program performs a method. Claims 37 and 44 go on to further limit the method being performed. Claims 38-43 and 45-48 merely are directed to limiting the computer program and do not include every limitation of the claim from which they depend. Applicant is required to cancel the claims, amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form. MPEP §608.01(n)(II).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 3, 34, and 39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

a. These claims recite that the data is not routed to the data storage unit.

However, there does not seem to be any support for this feature in Applicant's specification. Therefore, the claims are rejected for lacking written description in the

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specification. This rejection may be overcome if Applicant can cite specific sections in the specification that support the subject matter being claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-7 and 32-48 are rejected under 35 U.S.C. §103(a) as being unpatentable over Saito, U.S. Patent No. 5,257,386, in view of van Rietschote, U.S. Patent No. 7,213,246 [“Rietschote”].

8. Rietschote was cited but not relied upon in the Office action filed on 8.24.2007.

9. As to claim 1, Saito discloses a method for responding to a request to transfer data between a first virtual machine (VM) in a virtual computer system and a data storage unit within a multipath data storage system, the method comprising:

determining a plurality of paths over which the data could be routed [column 3 «lines 46-63» | column 6 «lines 36-42» : determining whether paths are available]; and

determining VM-specific information related to the first VM [column 3 «lines 51-56» : each VM has a transfer priority].

Saito does not expressly disclose determining that a failure has occurred that prevents the transfer of data over a first path of the plurality of possible paths nor does he disclose in response to this determination, suspending the first VM. However, the feature of determining whether failures have occurred that prevents data from being communicated and suspending a VM in response to this determination was well known in the art at the time of Applicant's invention.

For example, Rietschote discloses these feature in his invention directed towards failing over a virtual machine. Specifically, Rietschote discloses determining when an application has failed in a cluster of computer systems [column 4 «lines 9-10»] and in response to this determination, suspending the virtual machine [column 4 «lines 10-12»]. Rietschote further discloses that an applications may include well known applications such as email servers, web servers, database servers [column 1 «liens 15-17»]. Clearly, since these applications are well known to be involved in the transfer of data over a connection path, when these types of applications fail, transfer of data from these applications over the network is prevented. In addition, Rietschote discloses an application operating on an alternate path [Figure 1 «items 10B, 10N» where : each computer system represents an alternate path to the network 12 | column 2 «lines 52-53»].

Therefore, Rietschote discloses the missing limitations of determining that a failure has occurred that prevents the transfer of data over a first path of the plurality of paths and subsequently suspending the VM in response to determining that a failure has occurred [column 2 «lines 52-53» | column 4 «lines 9-12»]. It would have been obvious to one of ordinary skill in the art to have modified Saito's system to include Rietschote's suspension

functionality. One would have been motivated to modify Saito in order to increase the fault tolerance capabilities of his system.

10. As to claim 2, Saito does not expressly disclose that in response to the determination that the failure has occurred that prevents the transfer of data over the first path, failing over to one or more alternate paths. However, failing over to an alternate path when a first path fails was a well known feature in the art at the time of Applicant's invention. Rietschote discloses this functionality through his teaching of failing over a VM from one computer system to a second computer system that has an alternate connection to the network [Figure 2 | column 4 «lines 14-21» | column 6 «lines 20-30»]. It would have been obvious to one of ordinary skill in the art to have modified Saito's system to include the failover capability taught in Rietschote. One would have been motivated to modify Saito because such capability enables VMs to continue communicating with the storage device even when the communication through the first connection is impossible.

11. As to claim 3, Saito discloses the data is not routed to the data storage unit [column 6 «lines 23-33»].

1> As to claim 4, Saito discloses the VM-specific information indicates the first VM's priority relative to other virtual machines [column 4 «lines 1-11»].

12. As to claim 5, Saito discloses the first VM is determined to have a lower priority than one or more other virtual machines [column 4 «lines 1-14» : while Saito does not expressly disclose determining whether a first VM has a higher or lower priority than the other virtual machines, such a feature is implied from Saito's teachings of using a priority to determine how much information can be transmitted by each VM. That is, one of ordinary skill in the art would have been able to reasonably deduce that a VM with a higher priority would be able to transfer more data than a VM that had a lower priority].

13. As to claim 6, Saito does not disclose suspending the VM until the failure is corrected. However, keeping a VM in a state of suspension until a failure can be corrected was a well known feature in the art at the time of Applicant's invention. For example, Rietschote discloses suspending a VM upon detection of a failure and subsequently resuming the VM when the VM has been transferred to a system that is capable of communicating with the network [column 4 «lines 16-21»]. It would have been obvious to one of ordinary skill in the art to have modified Saito to include Rietschote's suspend and resume functionality. One would have been motivated to modify Saito because such functionality would have improved Saito's ability to deal with network communication errors while allowing the VM to continue communications over a different network path.

14. As to claim 7, Saito does not disclose suspending until a failback occurs. However, suspending a VM until a failback occurs was a well known feature in the art at the time of Applicant's invention. For example, Rietschote discloses suspending a VM until a failback

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occurs [column 9 «lines 47-60» : waiting until the failed server (that caused interruption in network communication) comes back online]. It would have been obvious to one of ordinary skill in the art to have modified Saito's system to include Rietschote's failback functionality. One would have been motivated to have modified Saito because failback functionality provides the ability to resume the VM on the same network connection after it has been repaired.

15. As to claims 32-36 and 44-48, they are rejected for at least the same reasons set forth for claims 1-5.

16. As to claims 37-43, they are rejected for at least the same reasons set forth for claims 1-7.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOHM CHANKONG whose telephone number is (571)272-3942. The examiner can normally be reached on Monday-Friday [8:30 AM to 4:30 PM].

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571.272.3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. C./
Examiner, Art Unit 2152

/Bunjob Jaroenchonwanit/
Supervisory Patent Examiner, Art Unit 2152

<div>Application Number</div> <div></div>	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/665,779	SCALES ET AL.	
	Examiner	Art Unit	
	DOHM CHANKONG	2152	